ROYAL HOLLOWAY, UNIVERSITY OF LONDON

THE MAINTENANCE OF PORTABLE AND TRANSPORTABLE ELECTRICAL EQUIPMENT

POLICY AND PROCEDURE

This Policy identifies the manner in which the College's portable electrical equipment is to be maintained and covers combined inspection and testing, formal visual inspection, and user checks[1], each of which are to be undertaken at specified frequencies. Such action is to be taken to ensure that potential risks associated with portable electrical equipment are reduced to the lowest level reasonably practicable. 'Portable' electrical equipment is the term given to any tool or device (e.g. electric hand tools, computer equipment, kettles, extension leads), not being part of the fixed electrical installation of a premises. The arrangements for 'fixed' electrical equipment and electrical installations are outlined in other College documentation.

Section 1 – Background to this Policy

Maintaining the safety of portable electrical equipment is based on the Estate Services Division of Facilities Management operating a programme of combined inspection and testing, supplemented by visual checks. Comprehensive information on PAT testing, including the frequencies on which this Policy is based can be found in the Institution of Engineering and Technology publication '*Code of Practice for In-Service Inspection and Testing of Electrical Equipment*'. The recommendations contained in the Health and Safety Executive publications HSG107 '*Maintaining Portable and Transportable Electrical Equipment*', INDG236 '*Maintaining Portable Electrical Equipment in Offices and Other Low-Risk Environments'* and INDG237 '*Maintaining Portable Electrical Equipment in Hotels and Tourist Accommodation'*, have also been taken into account.

Table 1 of this document (re-produced from HSG107) provides the basis on which the College's broad programme of portable appliance inspection and testing, formal visual inspection and user checks is undertaken, while the Table 2 (re-produced from INDG236), provides the basis for office and other low risk environments, and Table 3 (re-produced from INDG237) for College residential accommodation.

---

[1] These are described by the Institution of Engineering and Technology in Health and Safety Briefing No. 34c (July 2010) as follows:

Combined Inspection and Testing – One way to identify such defects is through an electrical testing which is commonly done by using a portable appliance test instrument (a 'PAT' tester). In low risk environments, a properly trained, competent member of staff can perform these tests using a suitable 'off the shelf' PAT tester on appliances disconnected from the electrical supply. In higher risk areas a more highly trained specialist may be needed to disconnect the equipment from the electrical supply, perform complex tests and to interpret the results.

Formal Visual Inspection – The most important monitoring of portable appliances is through a regular formal visual inspection. This should be carried out by someone who has been properly trained to perform a more thorough check of the equipment. This may include examining plugs, fuses, flexible cables, and cable clamping arrangements etc.

User Checks – The user of the equipment should be encouraged to check the condition of the equipment prior to use. It is relatively easy for people to spot and report signs of damage, overheating and misuse.

Establishing the frequency of inspection and testing is determined from the risks arising from portable electrical equipment which are essentially associated with the frequency of use and conditions in which operation takes place. Construction tools may, for example, require inspection monthly, and combined inspection and testing every three months, while some office equipment may only require inspection every two years and combined inspection and testing every four years. Action does, therefore, depend on the equipment, its location and use, and the findings of risk assessments that take into account all relevant factors. Such risk assessments will be conducted by the Maintenance and Services Manager, or a person or persons authorised on the post holder's behalf. Risk assessments may only be undertaken by those trained by a member of the College Health and Safety Office using the methodology described in the College's *Guide to Conducting 'General' Risk Assessments* document.

The College's interventions to secure the safety of portable electrical equipment have been developed from information gathered from the sources identified above, as well as its own programme of portable appliance inspection and testing. From the data gathered, risk assessments establish the precise frequencies of combined inspection and testing, formal visual inspection and user checks.

The legal basis of the need for the action identified is to be found in the Electricity at Work Regulations 1989, the Health and Safety at Work Act 1974, The Provision and Use of Work Equipment Regulations 1998 and the Management of Health and Safety at Work Regulations 1999. Other legislation and the formal guidance referred to above is also applicable.

Section 2 – Organisation and Arrangements for Carrying Out the Policy
This Policy will be managed on behalf of the College by the Maintenance and Services Manager (Facilities Management). Under the post holder's authority, specified duties may be delegated to persons outside of the Department, subject to their competence as defined in Section 3 below.

Section 3 – Competent Persons
Persons undertaking the formal inspection, testing and repair of electrical equipment, including experimental equipment, must possess the relevant technical knowledge and training to enable them to undertake the work safely. Competence in this context will be determined by the Maintenance and Services Manager and will include:

i) Experience in working with electricity and a knowledge of the associated hazards;
ii) A knowledge of electrical and related safety standards and the precautions required to avoid danger;
iii) The ability to recognise when it is safe and when it is not safe to continue work with equipment in a variety of situations.

Section 4 – The Portable Appliance Testing Register and Monitoring Compliance – The Portable Electrical Equipment Management Review
Records of all inspection and testing programmes will be held by the Estate Services Division of Facilities Management in the 'PAT Register'. The records will be used to undertake monitoring of the data from which the inspection and testing regimes identified in Tables 1, 2 and 3 have been established and any amendments identified to be necessary will be made.

Monitoring arrangements will be undertaken formally every two years, and from these a 'PAT Management Review' will be undertaken. Under the direction of the Maintenance and

Services Manager, the review will encompass all aspects of this Policy, including the adequacy of the frequency of inspection and testing regimes and whether any changes to these are necessary, including the management arrangements contained in this document. From this review, any amendments identified to be necessary will be made.

Section 5 – Recommended Frequencies for 'PAT' combined Inspection and Testing, Formal Visual Inspection and User Checks

From the results of formal programmes of combined inspection and testing, formal visual inspections and user checks, the risk assessment process will establish any changes necessary to future inspection and testing programmes. This will be established from the broad regime detailed in Tables 1, 2 and 3.

Table 1 below contains, therefore, the broad frequencies of inspection and testing established from the findings of the risk assessment process. Table 2 provides the basis for offices and other low risk environments, while Table 3, for residential accommodation based on the requirements for hotels/similar establishments.

Notes:

a) The Maintenance and Services Manager will keep records of all formal combined inspections and testing, and formal visual inspections undertaken on behalf of the College.
b) Where the written risk assessment and Management Review undertaken by Estate Services establishes that it is appropriate, the frequencies identified above will be varied.
c) Where risk assessment undertaken by Estate Services identifies that it is appropriate, equipment, may be removed from a formal programme of inspection and testing. However, in such cases, user checks will be an essential feature of ensuring that the equipment is safe for use.
d) Specific items of equipment, not falling within the categories identified in Tables 1, 2 or 3 may require individual risk assessment to determine an appropriate frequency.
e) Departments may only undertake their own combined inspection and testing where a member of staff has been formally trained to do so and has been authorised by the Maintenance and Services Manager.

Section 6 – New Electrical Equipment

Newly purchased/installed electrical equipment will not be subject to formal inspection and testing for the first year, although before being put into use it will be necessary to undertake user checks. In the event of any signs of damage, the equipment must not be put into use and be returned to the manufacturer or supplier.

Section 7 – Electrical Equipment Owned by Members of Staff

In view of the inherent risks associated with portable electrical equipment, staff may not use their own equipment on College premises, other than in exceptional circumstances. In such cases, where a Head of Department establishes that it is essential for a member of their staff to use such equipment, they are required to liaise with the Maintenance and Services Manager, identifying the need and jointly agreeing the arrangements necessary. Any funding incurred in granting such an exception will be met by either the member of staff or their department; there can be no exceptions to this requirement.

Section 8 – Procedure in the Event of the Detection of Faulty Electrical Equipment
Any equipment found to be defective during combined inspection and testing, formal visual inspection, and user checks, will be immediately taken out of service and shall not be used until certified as safe for use by a competent member of the Estate Services Department or person authorised to act on its behalf.

Section 9 – Purchase of New and Disposal of Redundant Portable Equipment
Items purchased by departments should be notified to the Maintenance and Services Manager in order that they can be added to the Portable Appliance Register of equipment to be subject to formal inspection and testing. Items permanently taken out of service should also be notified to the post holder; they will then be removed from the register.

This Policy forms part of the College Health and Safety Policy.

Dr Richard Fisk
Health & Safety Adviser
08/04/2011

Table 1 – The Basis for the Inspection/Testing College 'Portable' and 'Transportable' Electrical Equipment

Type of Business	User checks	Formal Visual Inspection	Combined Inspection and Test
Equipment hire	N/A	Before issue/after return	Before issue
Construction (For indication only. See *Electrical safety on construction sites* for more detail)	110 V-Weekly 230 V mains – Daily/every shift	110 V-Monthly 230 V mains – weekly	110 V – Before first use on site then 3 – monthly 230 V mains – Before first use on site then monthly
Light industrial	Yes	Before initial use then 6-monthly	6 – 12 months
Heavy industrial/high risk of equipment dame	Daily	Weekly	6 – 12 months
Office information technology, e.g. desktop computers, photocopiers, fax machines	No	1 – 2 years	None if double-insulated otherwise up to 5 years
Double-insulated equipment *not* hand-held. e.g. fans, table lamps	No	2 – 3 years	No
Hand-held, double-insulated (Class II) equipment, e.g. some floor cleaners, kitchen equipment and irons	Yes	6 months – 1 year	No
Earthed (Class I) equipment, e.g. electric kettles, some floor cleaners	Yes	6 months – 1 year	1 – 2 years
Equipment used by the public, e.g. in hotels	By member of staff	3 months	1 year
Cables and plugs, extension leads	Yes	1 year	2 years

Table 2 – The Basis for Offices and Other Low-Risk Environments

Equipment / Environment	User Checks	Formal Visual Inspection	Combined Inspection & Test
Battery-operated: (less than 20 volts)	No	No	No
Extra low voltage: (less than 50 volts AC) e.g. telephone equipment, low voltage desk lights	No	No	No
Information technology: e.g. desktop computers, VDU screens	No	Yes, 2 – 4 years	No if double insulated – otherwise up to 5 years
Photocopiers, fax machines: NOT hand-held, Rarely moved	No	Yes, 2 – 4 years	No if double insulated – otherwise up to 5 years
Double insulated equipment: NOT hand-held. Moved occasionally, e.g. fans, table lamps, slide projectors	No	Yes, 2 – 4 years	No
Double insulated equipment: HAND-HELD e.g. some floor cleaners	Yes	Yes, 6 months – 1 year	No
Earthed equipment (Class 1): e.g. electric kettles, some floor cleaners	Yes	Yes, 6 months – 1 year	Yes, 1 – 2 years
Cables (leads) and plugs connected to the above. Extension leads (mains voltage)	Yes	Yes, 6 months - 4 years, depending on the type of equipment it is connected to	Yes, 1 – 5 years depending on the type of equipment it is connected to

Table 3 – The Basis for Hotels and Tourist Accommodation/Similar Establishments

Equipment / Environment	User Checks	Formal Visual Inspection	Combined Inspection & Testing
Battery-operated: (less than 20 volts)	No	No	No
Extra low voltage: (less than 50 volts AC) e.g. telephone equipment, low voltage desk lights	No	No	No
Information technology: e.g. desktop computers, VDU screens	No	Yes, 2 – 4 years	No if double insulated – otherwise up to 5 years
Photocopiers, fax machines: NOT hand-held, Rarely moved	No	Yes, 2 – 4 years	No if double insulated – otherwise up to 5 years
Double insulated equipment: NOT hand-held. Moved occasionally, e.g. fans, table lamps, slide projectors	No	Yes, 2 – 4 years	No
Double insulated equipment: HAND-HELD e.g. some floor cleaners, some kitchen equipment and irons	Yes	Yes, 6 months – 1 year	No
Earthed equipment (Class 1): e.g. electric kettles, some floor cleaners	Yes	Yes, 6 months – 1 year	Yes, 1 – 2 years
Cables (leads) and plugs Connected to the above. Extension leads (mains voltage)	Yes	Yes, 6 months – 4 years depending on the type of equipment it is connected to	Yes, 1 – 5 years depending on the type of equipment it is connected to